

Nonparasitic Skin Diseases of Dogs and Cats

BY C. D. STEIN ¹

THIS ARTICLE deals with 11 skin diseases of dogs and cats, describing the symptoms, discussing the known or possible causes, and outlining any treatments that have been found useful.

THE SMALL DOMESTICATED ANIMALS, particularly the dog and the cat, are subject to a number of different skin affections of a nonparasitic nature. These troublesome and sometimes perplexing afflictions, which are more or less common in dogs and to a lesser extent in cats, include such noncontagious diseases as alopecia, dermatitis, acne, seborrhea, impetigo, urticaria, and eczema, as well as affections due to specific causes such as dermatomycosis, or fungus infection of the skin.

Skin diseases of all types, especially in the dog, are often erroneously referred to by laymen as either mange or eczema. Since each type of skin affection in both dogs and cats usually requires a separate and special treatment, it is highly essential that the nature of the trouble and its cause be definitely determined if possible. Although a tentative diagnosis can be made from the characteristic features in some types of skin disease, it is necessary in most cases to resort to a microscopic examination to determine definitely whether the disease is of a parasitic or nonparasitic nature or whether it is due to fungi. Culture tests are also necessary at times, especially in cats, to determine the presence of ringworm.

When skin affections in dogs and cats become well established or chronic, they are sometimes difficult to cure, requiring persistent and painstaking attention for a long period. Even then results are occasionally unsatisfactory. The best results can be expected when the treatment is under the supervision of a qualified veterinarian with experience in treating small animals.

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In the treatment of nonparasitic skin disorders, too much stress should not be placed on external medication. The nonirritating medicinal preparations, such as oils, dusting powders, lotions, and ointments, commonly used on skin affections are merely relief measures to allay itching and promote healing and in most instances do not remove the primary cause of the trouble, which must be done in order to effect a cure.

The causative factors in nonparasitic skin diseases, except ringworm and *fayus* (a specific skin affection due to fungi), are numerous and sometimes obscure.

The appearance and condition of the coat of dogs and cats are influenced to a great extent by the general health of the animal. Disturbances in the general metabolism brought about by infectious conditions, diseases of the digestive, nervous, circulatory, or excretory systems, faulty feeding, and the administration of certain drugs are usually reflected in the skin and hair. Although the skin and hair normally show a marked resistance to ordinary external conditions, certain mechanical, chemical, or temperature influences have an extremely irritating effect, and, together with invasion by infective organisms, play a part in the production of skin affections.

ALOPECIA (LOSS OF HAIR)

Loss of hair, or alopecia, may be general or localized. A general loss of hair may occur in the normal process of molting. A dog normally sheds its coat once or twice yearly, the old hair being replaced with a new growth in about 6 weeks. Heavy-coated dogs and long-haired breeds that are kept indoors in the winter may shed more or less continuously. The annoyance caused by shedding can be lessened to some extent by daily grooming and keeping the dog outdoors. General shedding may also occur in debilitating diseases, such as distemper, diabetes, and jaundice, and as a result of senility. A localized loss of hair may occur in such skin diseases as mange, ringworm, and eczema, and in infestation by lice or fleas. It is also seen as a result of burns, scalds, chemical irritants, and thyroid deficiency.

DANDRUFF, OR SCURFINES

Dandruff is characterized by the presence of grayish-white scales on the skin or in the hair due to excessive exfoliation (falling off) of the upper layer of the skin. A dry, scaly skin may be caused by the use of strong bath soap, irritating chemical preparations, decreased sebaceous secretion, parasitic infestation, digestive disorder, and deranged secretion of the thyroid gland. Daily grooming to stimulate local circulation and the application of coconut or olive oil to relieve dryness are sometimes beneficial. When loss of hair accompanied by scurfiness is due to thyroid deficiency, the condition may be improved by a course of treatments with thyroid extract.

DERMATITIS

Inflammation of the skin (dermatitis) in dogs and cats is usually accompanied by redness (erythema), itching (pruritis), and sometimes

loss of hair (alopecia) and the formation of dandruff (scurf). Skin ruptures consisting of papules (pimples), vesicles (blisters), and pustules (purulent papules) may also occur in some forms of dermatitis.

Dermatitis may be local or general and may occur as an acute or subacute inflammation. It may also occur as a symptom during the course of distemper in dogs, or as a secondary symptom in parasitic infestation with tapeworms, hookworms, or heart worms. It is most commonly caused by extremely irritating external influences, such as pressure and rubbing from collars and harness, close clipping, the use of stiff grooming brushes, running through bushes, insect bites (by flies, fleas, bees, or wasps), and lying on hard rough floors. Prolonged exposure to the direct rays of the sun, burning, scalding, and freezing may also produce a form of dermatitis, and the condition may appear after a bath with strong caustic soaps or the application of irritating chemicals to the skin.

Dermatitis is usually characterized by redness of the skin and extreme itching. Repeated scratching, rubbing, and licking of the affected part tend to aggravate the condition. The lesions, or injuries, produced by the scratching and rubbing are frequently invaded by dirt and infective micro-organisms (*Staphylococcus* or *Streptococcus*), which often set up a septic dermatitis.

Mild forms of the disease usually clear up in a short time after the cause is determined and eliminated. The application of soothing lotions such as witch hazel or ichthyol ointment to relieve the itching, and dusting with mild antiseptic powders such as boric acid are usually beneficial.

During the fly season a dermatitis of the ears causes much concern to dog owners in many localities. Flies attack the tips of the ears and sometimes the eyelids and corners of the mouth, producing a dermatitis which, if untreated, may become very serious. When it is impractical to confine dogs in screened kennels, this condition can be relieved to some extent by the application of an ointment comprised of 5 percent of oil of tar in a lanolin base. This serves both as a healing agent and as a fly repellent.

Chronic cases of dermatitis accompanied by a thickening and hardening of the skin with a discharge of serum, formation of crusts, and loss of hair require long and persistent treatment to effect a cure and often terminate in chronic eczema. In persistent cases in which the condition can be ascribed to no external irritant, the animal should be examined for the presence of intestinal parasites. The diet should be checked and altered if necessary to provide a balanced ration.

ECZEMA

Eczema, which is frequently mistaken for mange or ringworm, is often referred to by laymen as red mange. It is one of the most common skin diseases in dogs but is less prevalent in cats.

The disease is characterized by erythema, the development of papules, vesicles, and pustules, a serous discharge, formation of crusts,

intense itching, appearance of scurf, loss of hair, and a marked tendency to become chronic.

Eczema occurs in two forms—as an acute moist condition referred to as weeping eczema, or, more commonly, as a dry chronic condition. In the acute form the development of the disease is rapid. It is characterized principally by an intense erythema, marked itching, the formation of vesicles, a serous exudate, loss of hair, and a glistening moist appearance of the skin. This type frequently affects long-haired dogs.

The chronic type usually starts as a simple dermatitis and slowly develops into chronic eczema. It is characterized by inflammation and eruptions of the skin, intense itching, loss of hair, and formation of scurf, crusts, and scabs. It appears to be more common in coarse- and wire-haired breeds of dogs.

The most common site for the development of eczema is the region around the base of the tail and extending along the back line to the shoulders and neck. The skin around the scrotum or the vulva is also often affected. A moist form of eczema with a brownish discharge often affects the ear canal and the skin between the toes.

The disease is most prevalent during the summer, especially during hot, humid weather. In some dogs it has a tendency to clear up during the winter months, only to reappear during the early spring and summer. On account of its seasonal occurrence it is frequently referred to as summer eczema or periodic eczema.

The different forms of external irritation mentioned as possible causes of dermatitis may also be the primary causative agents in eczema.

A number of other factors, a few of which appear to have some connection with the fact that the disease occurs in summer, have been advanced as possible causative agents: (1) Allergy—certain foodstuffs, principally those with a high protein content, are believed to produce a reaction in the skin known as allergic eczema; (2) hypersensitivity, manifested in some dogs by extreme sensitivity to certain drugs and chemicals; (3) photosensitization, a condition that occurs in animals with light skin due to certain sensitizing agents as well as to lack of protective skin pigmentation and producing a mild inflammation or extensive blistering of the skin; (4) fungus infections, prevalent principally during the summer; (5) flea or chigger infestation, common during the summer; (6) environment—for example, confinement in small, hot, poorly ventilated quarters, with little or no exercise; (7) faulty feeding, including overfeeding, feeding excessive amounts of proteins or carbohydrates, and vitamin or mineral deficiencies.

General measures for the control of this trouble include reducing the protein or carbohydrate content of the diet, decreasing the food intake of overfed dogs, bathing less frequently, regular brushing and combing to keep the hair and skin clean, keeping affected animals in cool, dry, well-ventilated quarters free from flies and other insects, regular exercise in the cool part of the day, regular evacuation of the bowels and bladder, and keeping the animal free from internal para-

sites and particularly from such external parasites as fleas, lice, ticks, and harvest mites.

The use of mild lotions, ointments, and dusting powders to allay itching and promote healing is of some value in most cases.

IMPETIGO

Impetigo is rare in adult dogs but occasionally occurs in puppies. It is characterized by an eruption of small yellow vesicles or pustules which spread rapidly and tend to rupture, discharge a yellow pus, and later form scabs. The abdominal surface and the region inside the thighs are most commonly affected. It may occur as a secondary symptom in intestinal parasitic infestation, distemper, and other infectious diseases. In treating this condition applying a mild antiseptic to affected areas is helpful.

SEBORRHEA

Seborrhea, commonly known as greasy skin, is due to an excessive secretion of the oil glands of the skin. The condition occurs most frequently in fat, overfed house pets deprived of regular exercise. The lesions first appear in the region of the ears, neck, and root of the tail and gradually extend to other areas. The hair has an oily appearance and may gradually fall out, and there is usually an unpleasant characteristic odor associated with the malady.

ACNE

Acne in dogs and cats, also known as furunculosis or folliculitis, is an inflammation of the hair follicles or the skin glands, with a bacterial invasion resulting in suppuration (discharge of pus). It is characterized by the appearance of pimples or pustules which rupture, discharge pus, and form dry scabs. The condition most frequently affects the skin of the face, particularly the nose and cheeks, but may occur on other parts of the body. As the disease progresses, boils or carbuncles may develop at the site of the original lesions. In the treatment of the condition, good results have been reported following the administration of autogenous bacterins (those made from bacteria isolated from the skin lesions of the affected animal). Local treatment consists in opening the nodules and applying mild antiseptics to the affected parts. The administration of arsenicals internally has also been reported of value in some cases.

Furunculosis in cats frequently follows bites, bruises, and other injuries to the skin. The root of the tail and the back are the regions most commonly affected. The condition has a tendency to spread and become chronic, and surgical treatment is often required to effect a cure.

LIP ULCERATION IN CATS

Ulceration of the skin of the upper lip is a condition peculiar to cats. It usually becomes chronic and does not respond readily to

treatment. Good results are sometimes obtained by treating with iodine preparations. Application of silver nitrate (5 percent) has also been reported to be of some value.

In treating skin affections in cats under no circumstances should soaps or disinfectants containing phenol, creosote, tar, creolin, or naphthol be used, as cats are extremely sensitive to these materials.

URTICARIA

Urticaria, also known as nettle rash and hives, is rather uncommon in the dog. It is characterized by the sudden appearance of large blotches or swellings. The eruptions may be found on all parts of the body surface, but sometimes they are confined principally to the head, causing a diffuse swelling of the skin of the face. The exact cause of the disease is not known. Sometimes it is apparently due to external irritation, but in most instances it appears to be the result of an intestinal toxemia, or poisoning brought about by faulty feeding. Allergy has also been advanced as a cause. The course of the disease is usually short. Affected animals recover, and lesions disappear in many instances within a few hours without treatment. Recovery can be hastened by the administration of purgatives.

RINGWORM

Ringworm is a communicable disease of the skin occurring in both dogs and cats and readily transmissible to man and some other animals. The disease is caused by specific fungi (chiefly *Microsporon* and *Trichophyton* species), which are somewhat similar to certain ordinary molds. The lesions of ringworm usually appear on the face, head, or legs, but they may occur on any part of the body.

The disease in dogs is characterized by small circular areas of dirty gray or brownish-yellow crusts or scabs partially devoid of hair. As the disease progresses, the lesions increase in size and number and merge to form larger patches covered with crusts containing broken-off hairs. A raw, bleeding surface appears when crusts are removed by scratching or rubbing to relieve itching. In some cases, however, there is little or no itching.

In cats the lesions appear as small, raised, scaly or scabby areas covered by hair, but detectable by running the finger tips over the skin. Microscopic examination and culture tests are necessary for an accurate diagnosis.

If treatment of affected dogs is started early, when only a few lesions are present, the disease can be cured in 5 or 6 weeks. Treatment consists in clipping the hair from around the lesions, removing scabs, and applying tincture of iodine or 5-percent salicylic acid solution two or three times weekly until recovery takes place. Scabs and hair removed during treatment should be burned to destroy the infection. Due precautions should be observed in handling animals affected with ringworm, as this disease is readily transmissible to man and other animals. Isolation of affected animals is essential to prevent the spread of the disease.

FAVUS

Favus is caused by a fungus known as *Achorion schonleini*. It occurs principally in young cats and rarely in dogs. The sites most frequently affected are the paws, especially the skin of the toes near the claws, and the head and face. Lesions may occur in other parts of the body.

The disease is characterized by circular yellowish or grayish patches that develop into thick layers of crust of a sticky consistency.

Applications of tincture of iodine, a 5-percent solution of chlorine, or a 5-percent solution of salicylic acid are of value in treatment. This condition, like ringworm, is contagious to human beings, and affected animals should therefore be isolated and handled with due precautions.

At the time this book went to press, the drugs and other materials mentioned in various articles—chiefly as disinfectants, insecticides, and anthelmintics—were still available for veterinary and medical use. Under war conditions, however, it is possible that some of these materials may become scarce or unavailable. In that case, the reader should obtain professional advice from the Department of Agriculture, the State experiment station, a local veterinarian, or the county agent as to available substitutes.